

DELTA PROTECTION COMMISSION

14215 RIVER ROAD

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WALNUT GROVE, CA 95690

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**AGENDA ITEM #8**

May 12, 2000

To: Delta Protection Commission

From: Margit Aramburu, Executive Director

Subject: CalTrans Proposal to add Guardrails on Highway 160 in Sacramento County
(For Possible Commission Action)

(NOTE: New information is in bold type.)

BACKGROUND AND PURPOSE OF THE PROJECT:

The Delta Protection Commission discussed the proposed project at its March Meeting. No staff from CalTrans was available to attend that meeting. At the request of the Commission, staff drafted a letter outlining questions and issues associated with the proposed guardrail project and asked CalTrans staff to attend the May meeting and respond to those questions and issues (see attached copy of March 24, 2000 letter).

CalTrans has evaluated accidents in the period January 1995 through December 1997, and found there were 49 reported accidents in which vehicles ran off the highway. Fourteen of the accidents were in areas where CalTrans staff believes a guardrail is not needed (distance from river, etc.).

Of the 35 accidents where guardrails are now proposed, there were four accidents which resulted in four deaths; two accidents which resulted in deaths (two) and injuries; ten accidents with neither death or injury; and 19 accidents which resulted in injuries. Of the 35 accidents located where guardrails are now proposed, 20 of the accidents occurred on the river side of the highway; of these, seven occurred on a curve in; nine occurred on a curve out; and four were on a straight segment.

ENVIRONMENTAL REVIEW:

A project study report was approved in September 1997; engineering and environmental studies were started in July 1998. CalTrans processed a categorical exemption from California Environmental Quality Act for the proposed project in February 1999 (Section 15301: ...operation, repair, maintenance, or minor alteration of

existing public...structures, involving negligible or no expansion of use beyond that previously existing...(c)...existing highways...(d) restoration or rehabilitation of deteriorated or damaged structures, facilities...to meet ...current standards of public health and safety...(f) Addition of safety or health protection devices for use during construction of or in conjunction with existing structures, facilities...).

While CEQA precludes preparation of categorical exemptions for projects that "may result in damage to scenic resources, including, but not limited to trees, historic buildings, rock outcroppings or similar resources", CalTrans states the guardrail project "would not damage a scenic resource within a designated state scenic highway or...the removal of a scenic resource." In the categorical exemption, CalTrans states "the installation of the [guardrail] would not have a significant impact on the visual quality of the highway/river corridor".

NEED FOR THE PROJECT:

The Project Report states the total average accident rate on Highway 160 is 0.93 which is less than the total average accident rate of 1.48 for similar routes in the State. However, the severity of these accidents is higher than the statewide average. During the January 1995 through December 1997 period, the actual fatality rate was 2.5 times higher than the average fatality rate.

PURPOSE OF THE PROJECT:

The purpose of the project is to keep cars on the Highway with the intent of lessening the number and percentage of fatalities on Highway 160. The guardrails will serve to keep cars on the Highway and out of the Sacramento River.

TRAFFIC VOLUMES ON HIGHWAY 160:

The traffic volumes for 1998 are measured as average daily traffic (ADT). For the southerly section between Antioch Bridge and Highway 12, which was widened, the ADT was 10,600. For the section from Highway 12 to Isleton Bridge, the ADT was 4,340. For the section from Isleton Bridge to Twin Cities Road the ADT was 2,750. For the section north of Twin Cities Road to Paintersville Bridge, the ADT was 1,500.

PROJECT DESCRIPTION:

CalTrans is planning to install guardrails within the existing right-of-way on the water side of Highway 160 from the Paintersville Bridge, south of Courtland, south to mid-Sherman Island (where the Highway 160 leaves the levee). The metal beam guardrail would be in 10 locations, but would essentially be installed along the 22 mile stretch of highway (see attached map). The project is located entirely in Sacramento County.

CalTrans will leave openings for access to pumps. CalTrans will locate the guardrails two feet inland from the "hinge point" of the levee; where the crown of the levee meets the side slope of the levee. This means the area between guardrail and the paved portion of the State Highway will vary with the width of the crown of the levee. CalTrans intends to keep the guardrail as far from the paved surface of the roadway as possible to accommodate agricultural vehicles, residents who need a wide turning radius to travel from perpendicular driveways into the State Highway, and for emergency parking. While CalTrans is not intentionally creating parking areas for anglers and others who occasionally park along the State Highway, these informal uses can continue where there is adequate levee crown width. CalTrans and the CHP say there is no law precluding parking alongside a State highway. Cars can be removed if they are impacting the flow of traffic, or creating a hazard. The guardrail is a standard design, 29 inches high (see attached diagram), with wooden uprights and a metal guardrail.

Project Cost: \$2,135,000

Project Schedule: Work is schedule for Fiscal Year 00-01 (July 12, 2000 to June 30, 2001).

Project Status: The proposed project needs to obtain a permit from the Reclamation Board, and permission from the Reclamation Districts.

LOCAL ISSUES:

At a meeting with Reclamation District representatives and local landowners, the following issues were raised:

- Loss of access for service of irrigation pumps;
- Loss of access for levee maintenance from the land;
- Restrictions to transport of agricultural equipment on the highway;
- Adverse aesthetic impacts to a designated scenic roadway from installation of the guardrail;
- Loss of shoulder area for emergency vehicles in the event of an accident;
- Possible increased speed by cars on the highway;
- Loss of shoulder for bicyclists on highway;
- Loss of shoulder parking for anglers.

A key issue is possible interference with levee maintenance from the land. For example, Grand Island, RD 3, performed maintenance from the land at 30 sites in 1999.

PUBLIC MEETING:

A public meeting on the proposed project was held on Wednesday, March 29, 2000 at the Jean Harvie Community Center in Walnut Grove from 4 p.m. until 8 p.m.

OTHER STRATEGIES FOR ADDRESSING PUBLIC SAFETY ISSUES ON HIGHWAY 160:

Develop a Highway 160 Planning Process Similar to the Highway 12 Planning Process: For Highway 12, the CHP applied for funds to address the identified safety problems. CHP sponsored a committee consisting of local government, traffic planning agency (SACOG), State Agencies, sheriff and highway patrol, and community representatives to seek studies and funds to implement ideas developed by the group to educate the public and increase public safety. As a result, special funds were sought for additional enforcement and special funds were sought for driver education. Special legislation was enacted to create a double fine zone.

If such a special study process were adopted, the following matters could be addressed:

Evaluate Benefits of Guardrails Installed on Highway 160 North of Paintersville Bridge: North of the Paintersville Bridge, guardrails have been installed along 1.5% of the 18 kilometers north to Freeport where the Highway leaves the levee.

Redirect Traffic between Sacramento and Contra Costa County to I-5 and State Highway 12: Some of the traffic on State Highway 12 is travel between Contra Costa County and Sacramento. Through traffic could be directed with new road signs at the intersection of Highway 160 and Highway 12. The trip via Highway 12 to I-5 is 28 miles and 30 minutes. The trip via Highway 160 to River Road to Twin Cities Road to I-5 is 21 miles and 25 minutes.

Lower Speed Limit: The basic speed limit on Highway 160 is 55 miles per hour with many areas of lower speed limits for turns and towns. Under Section 22354.4 of the Vehicle Code, CalTrans can prepare an engineering and traffic survey and, after consultation with the California Highway Patrol. After the local Board of Supervisors has held a public hearing, CalTrans can select an appropriate speed limit (down to 25 miles per hour). The speed limit could be lowered to allow drivers to take advantage of the scenic vistas and to minimize accidents.

Increase Enforcement: Several steps could be taken to protect public safety such as additional enforcement of the existing speed limit; require lights on at all times for safety; impose double fines on Highway 160 in the Delta; add signage which warns drivers of hazards of passing and speeding. Some of these actions go beyond CalTrans authority.

Evaluate Selected Widening of Highway 160: The Project Report states "The clear recovery advisory design standard for this type of roadway is 6 meters. The California Reclamation Board is reluctant to widen or otherwise modify the configuration of this levee system due to fundamental engineering principles of levee design and poor bearing capacity of basement soils in the region. Funding and environmental compliance constraints do not make shoulder widening to

accommodate the clear recovery zone design criteria a viable alternative" (page 2). However, Highway 160 was widened and some critical sharp curves eliminated in the widening project south of Highway 12 in 1993-1994. A combination project of some guardrails and some selected widening could be evaluated.

Install Guardrail on Sections of Highway 160 with the Larger Traffic Volumes:

Based on CalTrans' measurement of average daily traffic, the heaviest volumes of traffic are on the most southerly portions of Highway 160. CalTrans could design a project which combines a guardrail on the sections up to Isleton Bridge and a reduced speed limit, increased enforcement, and/or driver education program in areas to the north.

Add Signage: The Commission's Plan recommends posting signs that warn of slow moving traffic in the Delta, and recommends diverting through traffic to other highways around the Delta. These recommendation were not addressed in development of the project.

DELTA PROTECTION COMMISSION POLICIES IN THE "LAND USE AND RESOURCE MANAGEMENT PLAN FOR THE PRIMARY ZONE OF THE DELTA":

Utilities and Infrastructure Finding F-8: Surface transportation in the Delta serves the agricultural operations, transporting products out the Delta to markets, and allows import of supplies and equipment. Other users of the Delta transportation network include regional trucking, regional commuters, recreational visitors, and local traffic within the Delta. Many existing Delta roads are historic, narrow, and nonconforming to present design standards. Drivers need to be aware of hazards and unique challenges that these roads pose.

Utilities and Infrastructure Policy P-5: Surface transportation in the Delta can be dangerous and congested. Roads within the Delta shall be maintained to serve the existing agricultural uses and supporting commercial uses, recreational users, and Delta residents. Where possible, commuter traffic and through traffic should be directed to surrounding highways and freeways, or minimized through programs which promote carpools, buses, or trains.

Utilities and Infrastructure Recommendation R-5: CalTrans should designate, through appropriate signage, those roadways which are used to transport agricultural equipment and other slow-moving vehicles.

STAFF RECOMMENDATION:

The Commission should hear the presentation of CalTrans staff, and determine if additional evaluation of the proposed project is warranted. If yes, the Commission should direct staff to prepare a written request to CalTrans and CHP for additional evaluation.

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March 29, 2000

Richard de la Cruz, Design Engineer
2800 Gateway Oaks, Design Section 3
Sacramento, CA 95833

Subject: Metal Beam Guardrail Safety Project on State Project Route 160

Dear Mr. de la Cruz:

I am writing regarding the proposed project on State Highway 160 located in Sacramento and Yolo Counties. The proposed project would install metal guardrail along most of the water side of Highway 160 from Courtland to mid-Sherman Island, approximately 20 linear miles. The proposed project is located within the Primary Zone of the Delta, the planning area of the Delta Protection Commission. The Commission does not have regulatory authority over State actions, however, the Commission has adopted a regional land use plan which includes findings and recommendations which apply to this project (see attached staff report).

The Commission scheduled a briefing on the project for its March 23, 2000 meeting, but was unable to confirm participation by CalTrans staff with Mike Hissel, our contact.

The Commission asked me to invite you to attend the next meeting of the Delta Protection Commission on Thursday, May 25, 2000 at 6:30 p.m. in the Jean Harvie Community Center in Walnut Grove. The Commission reviewed a brief staff report and asked that you attend and address the following matters:

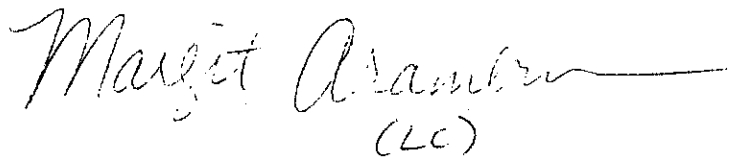
- Any information linking the accidents and deaths to a particular group of vehicles/drivers (local, agriculture, commute, etc)
- If CalTrans evaluated imposing speed limits to protect public safety, in lieu of guardrails.
- The proposed cost of the project.
- The proposed schedule for the project.
- A comparison of the number of accidents and deaths in the segment of Highway 160 with no guardrails, compared to segments of Highway 160 or River Road with guardrails.

- A comparison of the number of accidents and deaths in the section of Highway 160 discussed in your project report dated April 1999 versus any similar two lane highway with similar agricultural, recreational and commute traffic.
- Any information CalTrans may have about the numbers of vehicles in various categories: local traffic; commute or through Delta traffic; recreational users; and agricultural traffic.
- If CalTrans evaluated increasing law enforcement for speeding and/or reckless driving in lieu of guardrails.
- If CalTrans evaluated modifications to the road design (similar to redesign between Rio Vista Bridge and Antioch Bridge) in lieu of guardrails.
- If CalTrans sought advice or input from the Public Works Departments of Sacramento and Yolo Counties regarding their approach to resolving similar problems on County roads in the Delta.
- Impacts to aesthetics associated with installation of the guardrail.
- Restrictions on transportation of agricultural equipment within the Delta.

The Commission is extremely interested in protecting public safety and protecting the ability of landowners to move agricultural equipment within the Delta. In addition, the Commission acknowledges the importance of levee maintenance in the Delta that may be impacted by the installation of guardrails. A presentation that outlines all viable alternatives would be very valuable to the Commission as it reviews your proposed project.

Please let me know if you will be available to brief the Commission on May 25.

Sincerely,



(LC)

Margit Aramburu
Executive Director

Cc: Chairman Pat McCarty
Supervisor Don Nottoli
Supervisor Mike McGowan

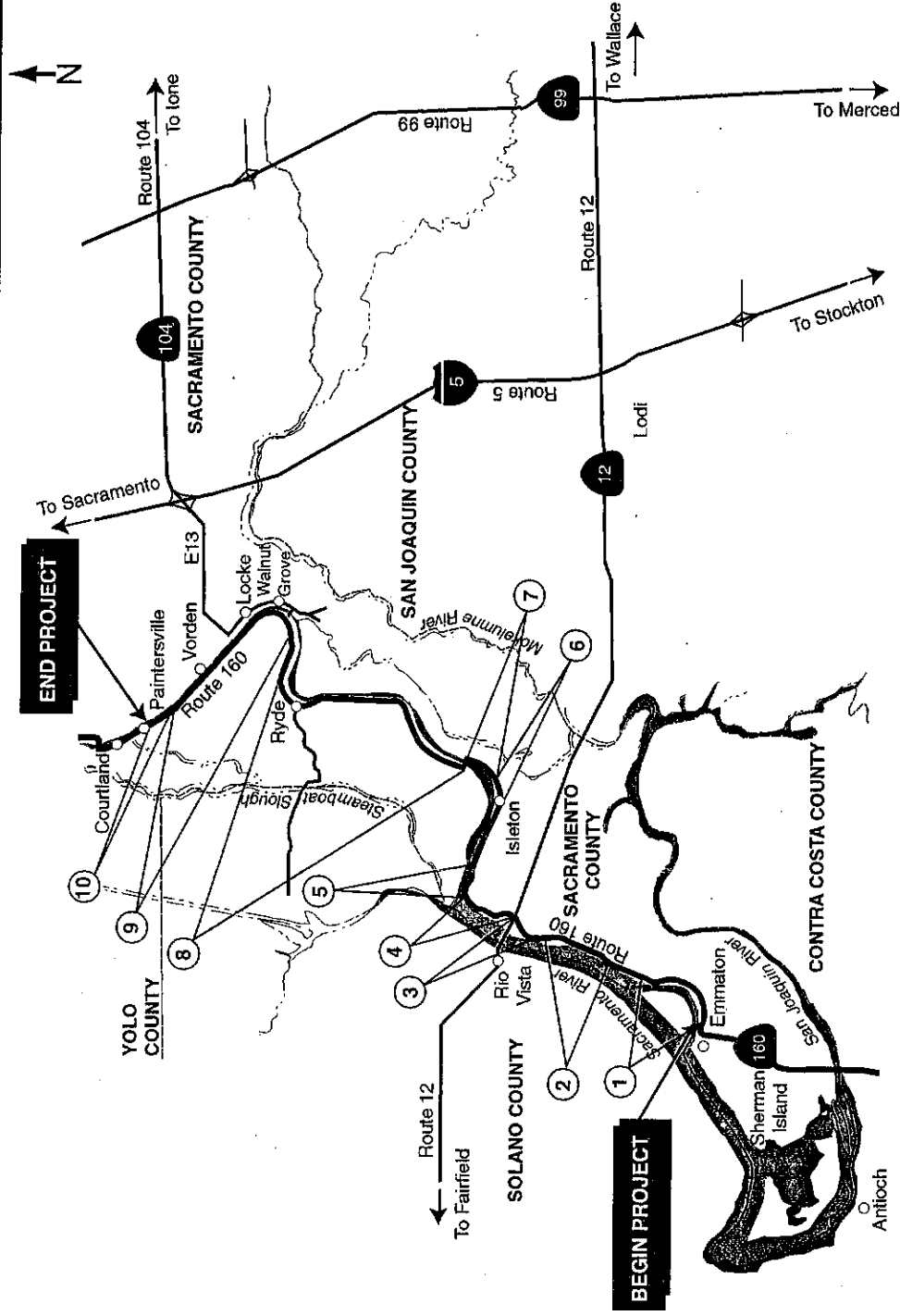
STATE ROUTE 160 (RIVER ROAD) METAL BEAM GUARD RAIL SAFETY PROJECT

WORK LOCATIONS

LOCATION	POST MILE
①	L 4.2/L 6.3
②	L 7.7/L 9.6
③	L 10.2/L 10.8
④	0.0/ 0.9
⑤	1.7/ 2.6
⑥	3.8/ 4.5
⑦	4.8/ 5.5
⑧	6.0/ 14.0
⑨	14.5/ 19.7
⑩	19.9/ 20.9

LEGEND

— PROJECT LIMITS



NO SCALE

PROJECT LIMITS:

On State Route 160, from about 4.2 miles north of Sacramento County Line (near Emmaton) to Paintersville Bridge (Bridge # 24-0053).

SCOPE OF WORK:

Install 117,100 lineal feet of metal beam guardrail on the river side of Route 160.

COST ESTIMATE:

This project is programmed in the State Highway Operation and Protection (SHOPP) HB1 Program in the 00/01 fiscal year for \$2,135,000. No additional right of way is required.

PURPOSE:

This project is needed to reduce the severity of accidents that occur on this segment of Route 160. The Route lacks a clean recovery area for errant vehicles because it is situated on the top of a narrow levee. Metal beam guardailing has been shown to effectively contain errant vehicles to the limits of the roadway.

NEED:

Between January 1, 1995 and December 31, 1997, 49 accidents occurred involving vehicles running off the roadway within the limits of this project. A total of 38 injuries and 6 fatalities resulted from these accidents. This project will provide metal beam guardailing at 10 separate locations along the river side of Route 160.

JUSTIFICATION:

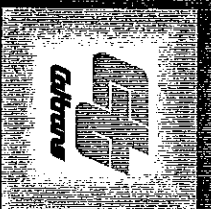
The location of each guardrail installation was determined through the investigation and statistical analysis of reported accidents along the route. This metal beam guardrail containment system is expected to minimize the likelihood that errant vehicles would leave the roadbed and enter the river, thereby reducing the potential severity of these accidents.

SCHEDULE:

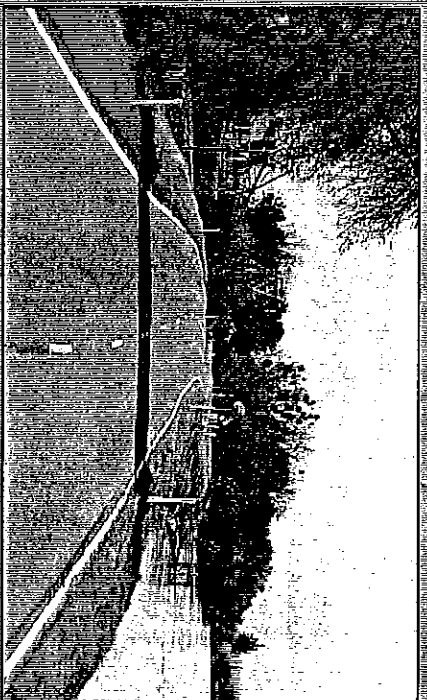
Environmental Compliance Complete	3/99
Design Complete	7/00
Begin Construction	4/01
End Construction	11/01

WHERE YOU COME IN:

Please complete a comment card. You may either leave your comment card with us during the public meeting or drop them in the mail to Richard De La Cruz, Design Engineer, Department of Transportation, District 3, 2800 Gateway Oaks Drive, Suite 100, Sacramento, CA 95833. For more information, please contact Richard De La Cruz at (916) 274-5954.



STATE ROUTE 160 (RIVER ROAD) METAL BEAM GUARDRAIL SAFETY PROJECT



RAY DAVIS
Governor

JOSE MEDINA
Director

MARIA CONTRERAS-SWEET
Secretary

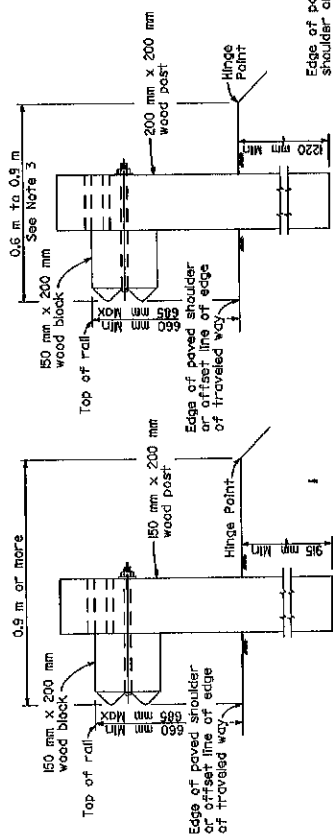
Business, Transportation and Housing Agency

METAL BEAM GUARD RAILING TYPICAL LINE POST INSTALLATION

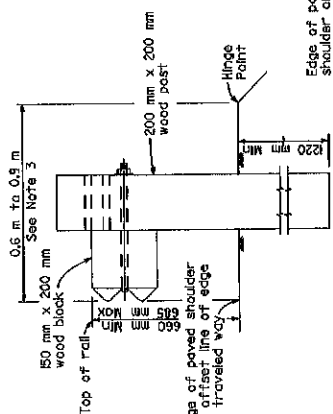
NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

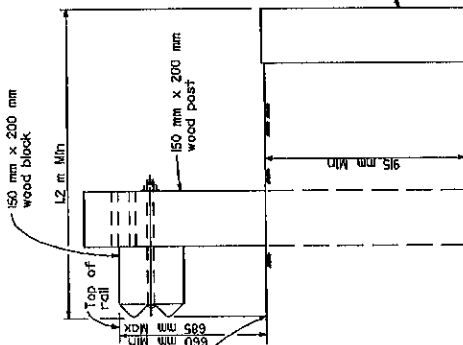
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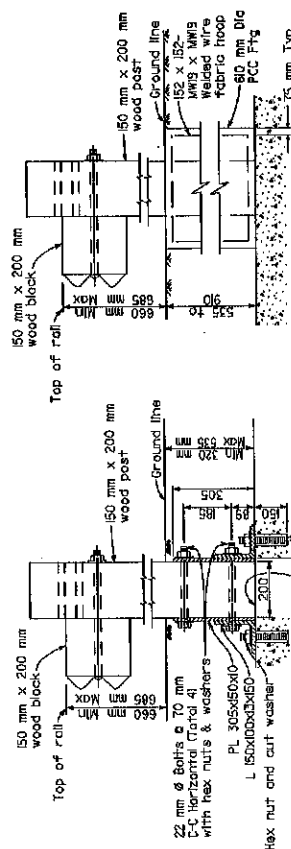
DETAIL A
TYPICAL ROADWAY
INSTALLATION



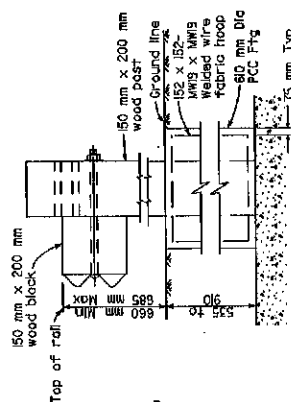
DETAIL B
NARROW ROADWAY
INSTALLATION



DETAIL E



DETAIL C



DETAIL D.

SPECIAL
POST FOOTINGS

See Note 4

INSTALLATION AT EARTH RETAINING WALLS

DETAIL F.

NOTES

1. For additional installation details, see Standard Plans AT7A and AT7A-1.
2. For additional details of wood post and blocks, see Standard Plan AT7C.
3. Where the distance between the face of the rail and the hinge point is less than 0.6 m, see the Project Plans for special details.
4. Use these post footings only where standard embedment of railing post as shown in Details A and B is restricted by underground concrete facilities such as footing of walls, columns, etc.
5. For alternative positioning with guard railing installations, see Standard Plan AT7F.

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STATE ROUTE 160 (RIVER ROAD) METAL BEAM GUARDRAIL SAFETY PROJECT



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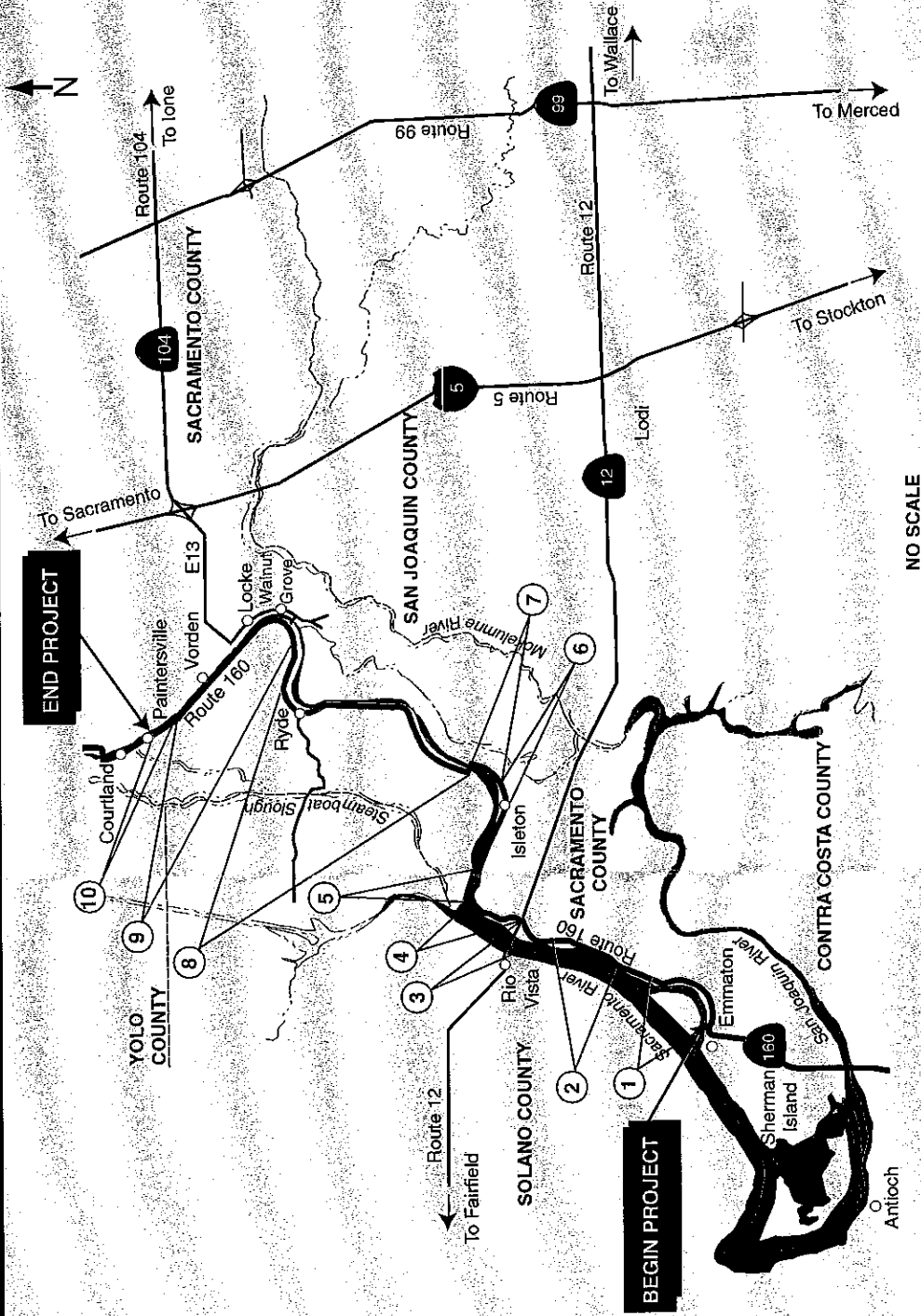
STATE ROUTE 160 (RIVER ROAD) METAL BEAM GUARD RAIL SAFETY PROJECT

WORK LOCATIONS

LOCATION	POST MILE
1	1.42/1.63
2	1.77/1.96
3	1.102/1.103
4	0.0/0.9
5	1.7/2.6
6	3.3/4.5
7	4.8/5.5
8	6.0/14.0
9	14.5/19.7
10	19.9/20.9

LEGEND

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